

Please replace the paragraph beginning on page 13, line 31 and ending on page 14, line 9, with the following:

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When the mobile station receives a message from its old base station notifying it to regard the new base station as its current base station, the mobile station starts transmitting to the new base station using the new base station's CDMA code. Since it is undesirable to start a transmission suddenly at high power, the mobile station preferably ramps up the power level of the new code from a low power level to the desired power level. The desired power level can, for example, be determined according to the method disclosed in U.S. Patent No. 5,345,598, entitled "Duplex Power Control" which was filed on April 10, 1992 and is hereby incorporated by reference. Therein, the power level is adjusted based on the relative signal strength the mobile station receives on its code from the new base station compared to other codes from that base station.

IN THE CLAIMS:

Please cancel claims 1 and 3-9, and replace claim 2 as follows.

2. (Five Times Amended) A method of communication comprising:

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receiving, by a mobile station, a control signal on a first frequency from a first base station using a waveform encoded with a first scrambling code to inform said mobile station of a second frequency and a second scrambling code, different from said first scrambling code, which relate to a second base station;

receiving, by said mobile station, a signal on the second frequency from said second base station using a waveform encoded with the second scrambling code, wherein the signal is received by said mobile station after a transfer indication is provided by a network controller.

Please add new claims 53-108 as follows.

53. (New) A method of communication by a mobile station comprising:
determining a signal strength of a reference signal transmitted by a serving
base station;
determining a signal strength of a traffic signal transmitted by said serving
base station;
determining relative signal strengths of said reference signal and said traffic
signal; and
initiating a handoff-related activity based on said determined relative signal
strengths.

54. (New) The method of claim 53, wherein initiating a handoff-related activity
based on said determined relative signal strengths comprises:
making measurements, of signal strengths received from base stations other
than said serving base station.

55. (New) The method of claim 54, wherein initiating a handoff-related activity
based on said determined relative signal strengths comprises:
transmitting a message to said serving base station.

56. (New) The method of claim 55, wherein said message comprises information
on signal strengths received at said mobile station from base stations other than said
serving base station.

57. (New) The method of claim 53, wherein said reference signal is any signal
transmitted by said serving base station at a constant power level.

58. (New) The method of claim 53, wherein said reference signal is a pilot
signal.

59. (New) The method of claim 53, wherein said reference signal is a calling channel signal for transmitting call alerts from said serving base station to mobile stations.

60. (New) The method of claim 53, wherein said reference signal is a signal power received by said mobile station.

61. (New) The method of claim 53, wherein said reference signal is any other traffic signal that is the strongest of all traffic signals not including said traffic signal carrying information for said mobile station.

62. (New) The method of claim 53, wherein said traffic signal and said reference signal are Code Division Multiple Access (CDMA) signals.

63. (New) The method of claim 53, further comprising:
transmitting a signal encoded with a first code and the signal encoded with a second code as superimposed signals such that a power of a sum of the signals does not exceed a peak power capability of an amplifier of said mobile station.

64. (New) The method of claim 53, further comprising:
receiving an indication that said mobile station should be responsive to power control indications from either said serving base station or another base station.

65. (New) The method of claim 53, further comprising:
transmitting voice or signaling messages on a controlled transmit channel frequency;
receiving voice or signaling messages on a controlled receive channel frequency;
responding to one of said received signaling messages indicating that a transfer of communications to a new transmit and a new receive frequency shall be made;
changing to said new transmit frequency during a period when no voice or signaling messages are being transmitted; and

changing to the new receive frequency while no voice or signaling messages are being received.

66. (New) A method for communicating with a plurality of mobile stations comprising:

adjusting, by a serving base station, power levels of signals transmitted to said plurality of mobile stations based on a distance between said serving base station and each of said plurality of mobile stations;

initiating, by said serving base station, a handoff-related activity for one of the plurality of mobile stations based on the signal strength of signals received by said one of the plurality of mobile stations.

67. (New) The method of claim 66, further comprising:

receiving, by said serving base station, a message from said one of the plurality of mobile stations, the message including relative signal strengths of signals received by said mobile station from bases stations other than said serving base station.

68. (New) The method of claim 66, wherein initiating, by said serving base station, a handoff-related activity for one of the plurality of mobile stations based on the signal strength of signals received by said one of the plurality of mobile stations comprises:

sending a signal to a base station to begin transmitting a signal to said one of the plurality of mobile stations.

69. (New) The method of claim 68, wherein said base station is a different station than said serving base station and wherein said different base station begins transmitting to said one of the plurality of mobile stations on a same frequency channel as said serving base station.

70. (New) The method of claim 69, wherein said different base station begins transmitting the same information as said serving base station but coded with a different CDMA code.

71. (New) The method of claim 68, wherein said base station is said serving base station and the method further comprises:

beginning transmission by said serving base station to said one of the plurality of mobile stations on a second frequency channel while continuing transmission on an original frequency channel.

72. (New) The method of claim 71 further comprising:

transmitting, by said serving base station, a message to said one of the plurality of mobile stations indicating said second frequency channel.

73. (New) The method of claim 72, wherein said message is transmitted to said one of the plurality of mobile stations after said second frequency transmission has reached a target power level.

74. (New) The method of claim 71 further comprising:

beginning transmission by said serving base stations to said one of the plurality of mobile stations on said second frequency transmission to prepare an internal handoff.

75. (New) The method of claim 74 further comprising:

performing, by said serving base station, an internal handoff to transfer service of the mobile station from said original frequency to the second frequency in order to reduce traffic loading on said original frequency channel.

76. (New) The method of claim 75, wherein loading on said original frequency channel is reduced in order to reserve capacity on the channel for another mobile station about to enter cell associated with said serving base station.

77. (New) The method of claim 74 further comprising:

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performing, by said serving base station, said internal handoff to transfer service of said one of the plurality of mobile stations from said original frequency channel of said serving base station to said second frequency channel of said serving base station in preparation for transferring service to another base station using said second frequency channel.

78. (New) The method of claim 74, wherein an internal handoff is performed to transfer service of said mobile station from said original frequency to said second frequency in order to transfer traffic loading from an original frequency channel used heavily by surrounding base stations to a second frequency channel that is more lightly used in surrounding base stations thereby achieving capacity averaging over more than one base station.

79. (New) The method of claim 68, wherein said base station begins to transmit said signal to said given mobile station at a low power level and smoothly increases said power level to a target value.

80. (New) The method of claim 66, wherein initiating, by said serving base station, a handoff-related activity for one of the plurality of mobile stations based on the signal strength of signals received by said one of the plurality of mobile stations comprises:

transmitting, by said serving base station, a message to said one of the plurality of mobile stations indicative of a handoff channel.

81. (New) The method of claim 80, wherein said handoff channel is indicated by a new base station ID and CDMA code.

82. (New) The method of claim 80, wherein said handoff channel indication comprises a new frequency channel indication.

83. (New) The method of claim 66, wherein initiating, by said serving base station, a handoff-related activity for one of the plurality of mobile stations based on the signal strength of signals received by said one of the plurality of mobile stations comprises:

transmitting, by said serving base station, a command to said one of the plurality of mobile stations to begin transmitting a signal intended for reception by a different base station.

84. (New) The method of claim 83 further comprising:
receiving, at said serving base station, said signal transmitted by said one of the plurality of mobile stations for a different base station.

85. (New) The method of claim 84 further comprising:
receiving, at said serving base station, said mobile transmitted signal intended for said serving base station as well as said mobile transmitted signal intended for said different base station.

86. (New) The method of claim 85 further comprising:
diversity combining said two received signals.

87. (New) The method of claim 66, wherein said signals are Code Division Multiple Access (CDMA) signals.

88. (New) A cellular network comprising a plurality of base stations for providing a communication service for a plurality of mobile stations, a first base station comprising:

a transmitter which addresses a handoff message to a mobile station indicating that said mobile station shall begin transmitting to a second base station;

receivers which receive both an original transmission from said mobile station to said first base station and a new transmission from said mobile station to said second base station, wherein said new transmission is begun as a result of receipt of said handoff message at said mobile station.

89. (New) The first base station of claim 88, wherein said first base station provides said signals received by said receivers of said original transmission to a network controller and said network controller diversity combines said signals provided by said first base station with signals provided by said second base station to enhance received signal quality from said mobile station.

90. (New) The first base station of claim 88, wherein said first base station provides said signals received by said receivers of said new transmission to a network controller and said network controller diversity combines said signals provided by said first base station with signal provided by said second bases station to enhance received signal quality from said mobile station.

91. (New) The first base station of claim 88, wherein said new transmission is at a same frequency as said original transmission but uses a different CDMA code.

92. (New) The first base station of claim 88, wherein said first base station simultaneously receives said original and new transmissions.

93. (New) The first base station of claim 92, wherein said first base station provides the outputs of the receivers of said original transmission and the outputs of the receivers of said new transmission to a network controller where the signals are diversity combined with signals from said second base station to provide quadruple diversity.

94. (New) A mobile station comprising:

a traffic encoder which encodes signals for transmission using a first code and encodes the signals using a second code;

an amplifier; and

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cont a transmitter which transmits said signals encoded with said first and second code as a plurality of superimposed signals such that a power of a sum of said signals does not exceed a peak power capability of said amplifier.

95. (New) The mobile station of claim 94, wherein the power level of said second coded signal is ramped up smoothly while the power level of said first coded signal is ramped down smoothly while maintaining said sum below said peak power capability of said amplifier.

96. (New) The mobile station of claim 94, wherein said first and second encoded signals are intended for receipt by a first and second base station respectively.

97. (New) The mobile station of claim 94, wherein said traffic encoder uses the second code only during handoff from a first base station to a second base station.

98. (New) The mobile station of claim 97, wherein said traffic encoder ceases using the second code after said handoff is complete.

99. (New) The mobile station of claim 94, wherein said signals are Code Division Multiple Access (CDMA) signals.

100. (New) A mobile station for communicating with a network of base stations, comprising:

a transmitter which transmits user data and signaling messages to said network, wherein said transmitter is responsive to power control indications;

a receiver which receives and decodes user data signaling messages and said power control indications from said network; and

a controller for receiving a signaling message from a first of said base stations indicating that said transmitter shall be responsive to power control indications from a second of said base stations.

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101. (New) A mobile station for communicating with a network of base stations, comprising:

a transmitter which transmits user data and signaling messages to said network, wherein said transmitter is responsive to power control indications;

a diversity receiver which receives and decodes user data and signaling messages by diversity combining signals received from at least two of said base stations and which decode power control indications from said network; and

a controller which is responsive to one of said decoded signaling messages from a first of said base stations indicating that said transmitter shall be responsive to power control indications from a specified one of said at least two base stations.

102. (New) A method of communicating with a plurality of mobile stations comprising:

receiving, by a network controller from one or more base stations, messages including signal strength measurements from said plurality of mobile stations;

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analyzing, by said network controller, said signal strength reports;
making a determination, by said network controller, to handoff
communication with a given mobile station from a first base station to a second base
station, and
sending, by said network controller, a command to said second base station
to begin transmitting a signal for said given mobile station.

103. (New) The method of claim 102, wherein said second base station begins
transmitting the signal for said given mobile station starting at a low power and increasing
the transmission power from said low power to a target power level.

104. (New) The method of claim 102, wherein said plurality of mobile stations
communicate with said one or more base stations using Code Division Multiple Access
(CDMA).

105. (New) A method of communicating with a plurality of mobile stations
comprising:

receiving, by a network controller from one or more of base stations,
messages including signal strength measurements from said plurality of mobile stations;

analyzing, by said network controller, said messages;

making a determination, by said network controller, to handoff
communication with a given mobile station from a first base station to a second base
station, and

sending, by said network controller, a command to said first base station to
cease transmitting a signal for said given mobile station.

106. (New) The method of claim 105, wherein sending, by said network
controller, a command to said first base station to cease transmitting a signal for said given